Patent
Attorney Docket No. 05725.0833-00
Application No.: 09/766,403
Customer No. 22,852

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

Véronique DOUIN et al.

Application No.: 09/766,403

Filed: January 22, 2001

For: NANOEMULSIONS COMPRISING AT LEAST ONE AMPHIPHILIC LIPID, AT LEAST ONE OIL, AND AT LEAST ONE NONIONIC POLYMER, AND USES THEREOF

Group Art Unit: 1617

Examiner: L. Wells

Mail Stop Appeal Briefs - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF UNDER 37 C.F.R. § 1.192

This is an appeal to the Board of Patent Appeals and Interferences ("the Board") from the final Office Action dated December 3, 2002, finally rejecting claims 1-9, 11-21, 23-25, 30, 33, 50, 51, and 55-84 in the above-referenced patent application. The appealed claims, as rejected, are set forth in the attached Appendix.

In support of the Notice of Appeal filed June 3, 2003 and pursuant to 37 C.F.R. § 1.192, Appellants present in triplicate this brief and enclose herewith a check for the fee of $330.00 required under 37 C.F.R. § 1.17(c), along with a Petition for Extension of Time of three (3) months, accompanied by the fee of $950.00. If any additional fees are

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

required or if the enclosed payment is insufficient, Appellants request that the required fees be charged to Deposit Account No. 06-0916.

I. Real Party in Interest

L'Oréal, S.A. is the assignee of record, as indicated by the assignment to L'Oréal, which was recorded in the United States Patent and Trademark Office on May 7, 2001 at Reel 011779, Frame 0024.

II. Related Appeals and Interferences

Appellants' undersigned legal representative knows of no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1-9, 11-21, 23-25, 30, 33, 50, 51, and 55-84 are pending in this application. No claim has been allowed. As indicated in the final Office Action dated December 3, 2002, the Examiner has maintained the rejection of claims 1-9, 11-21, 23-25, 30, 33, 50, 51, and 55-84 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,925,341 to Cervantes et al. in combination with WO 99/36047 to Casperson et al.

IV. Status of Amendments

No amendments to the claims have been filed subsequent to the final rejection dated December 3, 2002.

V. Summary of Invention

The present invention relates to oil-in-water nanoemulsions comprising oil globules with an average size of less than 150nm comprising at least one oil, at least

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

The prior art discloses nanoemulsions comprising an amphiphilic lipid phase comprising phospholipids, a cationic lipid, water and a hydrophobic sunscreen. However, these nanoemulsions have at least the drawbacks that they are unstable at usual storing temperatures, and may discolor or produce unpleasant odors as a result. In addition, these nanoemulsions tend to exhibit less favorable cosmetic properties, e.g. they are all liquids that cannot easily be applied to the skin.

It is well-known to use water-soluble or water-dispersible polymers as thickeners for aqueous cosmetic solutions. These polymers can be crosslinked, and often have long chain length and high molecular weight. When used in combination with nanoemulsions, however, they can have a tendency to disrupt important features of the cosmetic nanoemulsion, such as stability and transparency. Thus, the present invention solves the need for a way to conveniently and effectively thicken or even gel an oil-in-water composition, while maintaining its other advantageous cosmetic properties.

Appellants have discovered that oil-in-water nanoemulsions comprising oil globules with an average size of less than 150nm comprising at least one oil and at least one amphiphilic liquid can be thickened with at least one nonionic polymer. The at least one non-ionic polymer can be chosen from water-soluble and water-dispersible non-ionic polymers comprising at least one hydrophobic block and at least one hydrophilic block.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

VI. Issues

The issue is whether claims 1-9, 11-21, 23-25, 30, 33, 50, 51, and 55-84 are patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,925,341 to Cervantes et al. ("the '341 reference") in combination with WO 99/36047 to Casperson et al. ("WO '047").

VII. Grouping of Claims

Each claim of this patent application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. § 282. Pursuant to 37 C.F.R. § 1.192(c)(7), the rejected claims in this appeal will be grouped as follows. Each of the groups contain separately patentable subject matter, but the claims within each group stand or fall together. The reasons why these groups of claims are separately patentable are set forth in the following section.

(1) Claims 1-9, 11-21, 23-25, 30, 33, 50, 51, 55-69

(2) Claims 70-72

(3) Claims 73-74

(4) Claims 75-78

(5) Claim 79

(6) Claims 80-84

VIII. Argument

The Examiner rejected claims 1-9, 11-21, 23-25, 30, 33, 50, 51, and 55-84 under 35 U.S.C. § 103(a) over the '341 reference in combination with WO '047. Appellants maintain that a prima facie case of obviousness has not been established for the reasons set forth below.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

A. Legal Standard Regarding Obviousness

To establish a prima facie case of obviousness, three basic criteria must be met, including some suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references. There must also be a reasonable expectation of success for the modification or combination. *See* M.P.E.P. § 2143. In addition, "both the suggestion and the reasonable expectation of success must be found in the prior art reference, not in the applicants' disclosure." *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991).

The threshold for establishing motivation or suggestion to modify a prior art reference is high. The Examiner can satisfy the burden of establishing a prima facie case of obviousness "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to modify the relevant teachings of the references." *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (citations omitted) (emphasis added). Finally, the Federal Circuit has recently reaffirmed the Examiner's high burden to establish a prima facie case of obviousness and has emphasized the requirement of specificity. *See In re Sang-Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). In *Lee*, the Federal Circuit held that "[t]he factual inquiry whether to modify or combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with." *Id.* 277 F.3d at 1433 (emphasis added).

In addition to the lack of motivation or suggestion to modify the '341 reference with WO '047 to obtain the claimed invention, the Examiner has failed to provide any

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

evidence showing that even if the modification were attempted, one of ordinary skill in the art would have a reasonable expectation of successfully obtaining the claimed invention.

B. The Examiner Has Not Met the Requisite Burden of Proof

In this case, Appellants maintain that the Examiner has failed to meet the requisite burden at least with respect to the motivation to combine references and expectation of success. When an Examiner relies on a combination of references, he can satisfy the burden of obviousness "only by showing some objective teaching [*leading* to the combination]." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999) (emphasis added). In the present case, the Examiner has not satisfied this burden. Furthermore, Appellants contend that there would be no expectation of success for the Examiner's proposed combination.

(1) Group 1: Claims 1-9, 11-21, 23-25, 30, 33, 50, 51, and 55-69

The Examiner does not demonstrate how one skilled in the art would have been motivated to choose the polyether-polyurethane polymers in WO '047, particularly because the polymers used in WO '047 were used in conjunction with an aqueous hair dye, whereas the environment in the present application is an oil-in-water emulsion.

According to the Examiner, the '341 reference discloses oil-in-water nanoemulsions containing "nonionic amphiphilic lipids and aminated silicones wherein the oily globules have an average size of less than or equal to 150nm." First Office Action at page 4. The Examiner recognized that the '341 reference fails to teach at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block, which is recited in the present application. First Office Action at

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

page 5. The Examiner noted that column 12, lines 15-34 of the '341 discloses that the nanoemulsions thereof may contain thickeners. Id.

In order to remedy the deficiency of the '341 reference, the Examiner cited WO '047 for its disclosure of "the use of polyether-polyurethane block copolymers in hair compositions for enhanced rheological and conditioning benefits." Id. The Examiner concluded that it would have been obvious "to add a nonionic block copolymer as taught by WO '047 to the nanoemulsion of US '341 with the reasonable expectation of obtaining enhanced rheological and hair conditioning benefits." Id.

The Examiner alleges that "the motivation to combine references comes from the teaching of US '341 that the compositions can contain thickeners and the teaching of WO '047 that polyether-polyurethane polymers are thickeners." Final Office Action at 3. However, because the WO '047 polymers were used in conjunction with an aqueous hair dye, whereas the environment in the present application is an oil-in-water emulsion, the Examiner has not demonstrated how one skilled in the art would have been motivated to choose the polyether-polyurethane polymers in WO '047.

In the Advisory Action, the Examiner points out that both references are directed "to cosmetically acceptable hair care compositions." Advisory Action at 2. The Examiner continues, "US '341 teaches thickeners as additives in their composition and WO '047 teaches these polymers as compatible with cationic conditioning agents...and US '341 teaches their compositions as comprising cationic conditioning agents." Id. Evidently, the Examiner has misunderstood the context in which the thickeners are used.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

The thickeners used in the '341 reference may be cellulose derivatives, fatty alcohols, algal derivatives, and synthetic polymers. See col. 12, ll. 34-43. Appellants note that the '341 reference discloses the use of CARBOPOL as the synthetic polymer thickener. See col. 12, ll. 38-41. To the contrary, Appellants found that using CARBOPOL ULTREZ, for example, instead of Aculyn 46, resulted in "a composition which is not thickened, not transparent . . . and not stable on storage." Specification at page 54, lines 20-21. Indeed, none of the thickeners described in the '341 reference are the nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block, as is claimed. Moreover, none of the thickeners cited at col. 12, ll. 34-43 are actually used in the examples in the '341 reference. Absent Appellants' disclosure, there could not have been any motivation to use any other thickeners than those taught by the '341 reference. Because the Examiner cannot rely on Appellants' disclosure to supply this missing claim needed to establish obviousness, this rejection is improper. *In re Vaeck,* 20 U.S.P.Q.2d at 1438.

Turning to WO '047, while it is clear that the reference contemplates the use of polyether-polyurethane polymers as thickeners, the polymers are for use in aqueous systems. See page 6, line 23. These polymers are for use in a two component (dye/developer) hair dye composition, which is not the case in the present invention. There is absolutely no suggestion of using these polymers in emulsions, nanoemulsions, or in the presence of oil, as is claimed. The polyether-polyurethane is specific to aqueous-based compositions, such as WO '047, and there is no suggestion or motivation that such polymers would be viable with the oil-in-water emulsions of the '341 reference. Additionally, the polyether-polyurethane is present in the claimed

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

invention such that the hair dye composition resulting from mixing the two components is thick, even though the individual unmixed components containing polyether-polyurethane may both be thin, pourable liquids. See last line of abstract, page 4, lines 11-23, and page 5, lines 13-15. This attribute is not specified or disclosed in WO '047. Indeed, the polyether-polyurethane used in WO '047 is specific to an aqueous based hair dye composition, and one would have had no motivation to use the polyether-polyurethane in the completely different oil-in-water emulsions of the '341 reference. Nor would one have expected that the polyether-polyurethane would function successfully in that different environment.

Here, the Examiner has not pointed to any actual, objective evidence of record that would have led one of ordinary skill in the art to expect the feasibility or utility of such a combination, as suggested by the Examiner. Indeed, as illustrated in the Advisory Action, the Examiner is completely silent as to the distinction between the oil-in-water environment of the '341 reference and the aqueous nature of WO '047. Broad conclusory statements regarding the teachings of multiple references, standing alone, are not "evidence." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). As such, the Examiner has not cited any "clear and particular" evidence that would provide the necessary evidence of a suggestion, teaching, or motivation to combine the references.

The Examiner's conclusory statements are inadequate grounds for a rejection based on obviousness, since it is known that "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." *In re Rouffet*, 149 F.3d 1350, 1359 (Fed. Cir. 1998). Indeed, the Examiner can satisfy the burden of

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

showing obviousness "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fritch*, 972 F.2d 1260, 1265 (Fed. Cir. 1992). Appellants believe that this burden has not been met.

One skilled in the art would not reasonably expect success from taking an element used in an aqueous environment and using it in an oil-in-water emulsion environment. This, however, is exactly what the Examiner is proposing. Further, WO '047 does not describe a nanoemulsion, as is claimed. Thus, even if one were to take the polyether-polyurethanes out of their aqueous environment in WO '047 and put them into the oil-in-water emulsion described in the '341 reference, there is no indication that the resulting combination would be a stable, cosmetically viable nanoemulsion.

The Examiner has failed to provide any evidence to show why one of ordinary skill in the art would have reasonably expected a successful cosmetic to be formed from the proposed modification. Neither reference suggests the success of the proposed combination, and one of ordinary skill in the art would not have had the reasonable expectation of success for making the modification proposed by the Examiner. One of ordinary skill in the art, generally knowing that the cosmetic art is unpredictable and specifically recognizing the incompatibilities between aqueous and oil-in-water compositions, would not have reasonably expected success based on the substitution that the Examiner suggests.

(2) Group 2: Claims 70-72

The references cited by the Examiner provide no suggestion of the limitations set forth in claims 70-72, the common feature of which being a composition comprising an

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

oil in water nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block. For example, claim 70 is directed to cosmetic compositions and dermopharmaceutical compositions comprising the claimed nanoemulsion. Claim 71 is directed to a composition for caring for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising the claimed nanoemulsion. Claim 72 is directed to a composition for washing a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising the claimed nanoemulsion.

As shown, neither the '341 reference nor WO '047 teach the claimed nanoemulsion, let alone for the purposes recited in claims 70-72. Reading the references together, there is no teaching or suggestion for the elements set forth in claims 70-72. The Examiner has therefore not shown how one skilled in the art would have been motivated to combine the references to yield the subject matter in claims 70-72, or that one skilled in the art would have a reasonable expectation of successfully obtaining the claimed invention from the combination of the '341 reference and WO '047.

(3) Group 3: Claims 73-74

The references cited by the Examiner provide no suggestion of the limitations set forth in claims 73-74, the common feature of which being cosmetic compositions comprising a nanoemulsion comprising oil globules with an average size of less than

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block. For example, claim 73 teaches a cosmetic make up composition comprising the nanoemulsion for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising the nanoemulsion. Claim 74 teaches a cosmetic make-up removing composition comprising the nanoemulsion for caring for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising the nanoemulsion.

As shown, neither the '341 reference nor WO '047 teach the use of the compound as claimed in Claim 1 and certainly not for the purposes specified in claims 73-74. Reading the references together, there is no teaching or suggestion for the elements set forth in claims 73-74. The Examiner has therefore not shown how one skilled in the art would have been motivated to combine the references to yield the subject matter in claims 73-74, or that one skilled in the art would have a reasonable expectation of success for the purposes claimed from the combination.

(4) Group 4: Claims 75-78

The references cited by the Examiner provide no suggestion of the limitations set forth in claims 75-78, the common feature of which being a non-therapeutic care process for keratin material comprising applying to keratin material comprising the nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

For example, claim 75 teaches a non-therapeutic care process for a keratin material comprising applying to the keratin a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block. Claim 76 teaches the process of Claim 75 wherein the keratin material is chosen from the skin, the hair, the nails, the eyelashes, the nails, mucous membranes and the scalp. Claim 77 teaches a non-therapeutic care process for a keratin material comprising applying to the keratin material a composition for topical use chosen from cosmetic compositions and dermopharmaceutical compositions comprising the nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block. Claim 78 teaches the process of claim 77 wherein the keratin material is chosen from the skin, the hair, the nails, the eyelashes, the nails, mucous membranes and the scalp.

Neither the '341 reference nor WO '047 teach the use of the claimed nanoemulsion, let alone for the purposes specified in claims 75-78. Reading the references together, there is no teaching or suggestion for the elements set forth in claims 70-72. The Examiner has therefore not shown how one skilled in the art would have been motivated to combine the references to yield the subject matter in claims 75-78, or that one skilled in the art would have a reasonable expectation of success for the purposes claimed from the combination.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

(5) **Group 5: Claim 79**

The references cited by the Examiner provide no suggestion of the limitations set forth in claim 79. Claim 79 teaches a process for thickening oil-in-water nanemulsions comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

Neither the '341 reference nor WO '047 teach the claimed nanoemulsion and thus cannot teach a process for thickening such nanoemulsions. Reading the references together, there is no teaching or suggestion for the limitations set forth in claim 79. The Examiner has therefore not shown how one skilled in the art would have been motivated to combine the references to yield the subject matter in claim 79, or that one skilled in the art would have a reasonable expectation of success for the purposes claimed from the combination.

(6) **Group 6: Claim 80-84**

The references cited by the Examiner provide no suggestion of the limitations set forth in claims 80-84, the common feature of which being nanoemulsions comprising oil globules with an average size of less than 150nm comprising at least one oily phase, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block. Claim 81 teaches a nanoemulsion according to claim 80 wherein the weight ratio of the at least one oily phase and the at least one amphiphilic lipid ranges from 1:1 to 10:1. Claim 82 teaches a nanoemulsion according to claim 80 wherein the weight ratio of the at least one oily phase and the at least one amphiphilic lipid ranges from 1.2:1 to 10:1. Claim 83 teaches

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

a nanoemulsion according to claim 80 wherein the weight ratio of the at least one oily phase and the at least one amphiphilic lipid ranges from 1.5:1 to 6:1. Claim 84 teaches a nanoemulsion according to claim 80 wherein the weight ratio of the at least one oily phase and the at least one amphiphilic lipid ranges from 2:1 to 5:1.

Reading the '341 reference and the WO '047 reference together, there is no teaching or suggestion for the elements set forth in claims 80-84. Indeed, as the combination of references do not reach or suggest the nanoemulsion of claim 80, it certainly does not teach or suggest the weight ratios recited in claims 81-84. The Examiner has therefore not shown how one skilled in the art would have been motivated to combine the references to yield the subject matter in claims 80-84, or that one skilled in the art would have a reasonable expectation of success for the purposes claimed from the combination.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

IX. Conclusion

In view of the foregoing, Appellants respectfully request that each rejection be reversed and withdrawn.

To the extent any further extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.116 or 1.17 that are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: October 30, 2003

By: 

Louis M. Troilo
Reg. No. 45,284

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

APPENDIX - PENDING CLAIMS

1. An oil-in-water nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

2. A nanoemulsion according to claim 1, wherein said at least one oil and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oil to the amount of said at least one amphiphilic lipid ranges from 1:1 to 10:1.

3. A nanoemulsion according to claim 2, wherein said weight ratio ranges from 1. 2:1 to 6:1.

4. A nanoemulsion according to claim 1, wherein said oil globules have an average size ranging from 30 nm to 100 nm.

5. A nanoemulsion according to claim 1, wherein said at least one nonionic polymer is chosen from water-soluble nonionic polymers and water-dispersible nonionic polymers.

6. A nanoemulsion according to claim 1, wherein said at least one nonionic polymer comprises at least two hydrophobic blocks.

7. A nanoemulsion according to claim 1, wherein said at least one hydrophobic block is chosen from fatty chains comprising from 6 to 30 carbon atoms, divalent aliphatic groups, divalent cycloaliphatic groups and divalent aromatic groups.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

8. A nanoemulsion according to claim 7, wherein said fatty chains comprising from 6 to 30 carbon atoms are chosen from alkyl chains, arylalkyl chains, alkylaryl chains and alkenyl chains.

9. A nanoemulsion according to claim 1, wherein said at least one hydrophilic block is chosen from polyethylene oxides, polysaccharides, polyamides, and polyesters.

11. A nanoemulsion according to claim 1, wherein said at least one hydrophobic block and said at least one hydrophilic block are bonded with at least one linking group chosen from ester, ether, urea, amide and urethane linkers.

12. A nanoemulsion according to claim 1, wherein said at least one hydrophilic block and said at least one hydrophobic block are present in amounts wherein the weight ratio of the amount of said at least one hydrophilic block to the amount of said at least one hydrophobic block ranges from 10:1 to 1000:1.

13. A nanoemulsion according to claim 1, wherein said at least one nonionic polymer is chosen from:

(1) celluloses modified with at least one group comprising at least one hydrophobic chain;

(2) hydroxypropylguars modified by at least one group comprising at least one C_{10}-C_{30} fatty chain;

(3) polyether-polyurethanes comprising in their chain at least one polyoxyethylenated hydrophilic block and at least one hydrophobic block chosen from aliphatic chains, cycloaliphatic chains, and aromatic chains;

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

(4) copolymers formed from vinyl pyrrolidone and at least one hydrophobic monomer comprising at least one fatty chain;

(5) copolymers formed from at least one C_1-C_6 alkyl methacrylate and at least one amphiphilic monomer comprising at least one fatty chain and copolymers formed from at least one C_1-C_6 alkyl acrylate and at least one amphiphilic monomer comprising at least one fatty chain; and (6) copolymers formed from at least one hydrophilic methacrylate and at least one hydrophobic monomer comprising at least one fatty chain and copolymers formed from at least one hydrophilic acrylate and at least one hydrophobic monomer comprising at least one fatty chain.

14. A nanoemulsion according to claim 13, wherein said polyether-polyurethanes comprise at least two lipophilic hydrocarbon chains comprising from 6 to 30 carbon atoms, separated by a hydrophilic block, wherein said hydrocarbon chains are chosen from pendant chains and chains at the end of a hydrophilic block.

15. A nanoemulsion according to claim 13, wherein said polyether-polyurethanes are multiblock polymers.

16. A nanoemulsion according to claim 13, wherein said polyether-polyurethanes are triblock polymers.

17. A nanoemulsion according to claim 1, wherein said at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block is present in an amount ranging from 0.01 % to 10% by weight relative to the total weight of the composition.

18. A nanoemulsion according to claim 17, wherein said at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block is

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

present in an amount ranging from 0. 1% to 5% by weight relative to the total weight of the composition.

19. A nanoemulsion according to claim 1, wherein said at least one amphiphilic lipid is chosen from nonionic amphiphilic lipids and anionic amphiphilic lipids.

20. A nanoemulsion according to claim 19, wherein said nonionic amphiphilic lipids are chosen from:

1/- silicone surfactants,
2/- nonionic amphiphilic lipids that are fluid at a temperature of less than or equal to 45°C chosen from esters formed from (i) at least one polyol chosen from polyethylene glycol comprising from 1 to 60 ethylene oxide units, sorbitan, glycerol comprising from 2 to 30 ethylene oxide units, and polyglycerols comprising from 2 to 15 glycerol units, and (ii) at least one fatty acid comprising at least one alkyl chain chosen from saturated and unsaturated, linear and branchedC_1-C_{22} alkyl chains,
3/- mixed esters derived from (i) at least one fatty acid, at least one carboxylic acid, and glycerol, and mixed esters derived from (ii) at least one fatty alcohol, at least one carboxylic acid, and glycerol, wherein said at least one carboxylic acid is chosen from a-hydroxy acids and succinic acid,
4/- fatty acid esters of sugars and fatty alcohol ethers of sugars, 5/- surfactants that are solid at a temperature of less than or equal to 45°C chosen from fatty esters of glycerol, fatty esters of sorbitan, oxyethylenated fatty esters of sorbitan, ethoxylated fatty ethers, and ethoxylated fatty esters, and
6/- block copolymers of ethylene oxide (A) and of propylene oxide (B).

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

21. A nanoemulsion according to claim 19, wherein said nonionic amphiphilic lipids are chosen from:

- polyethylene glycol isostearate comprising 8 ethylene oxide units,
- diglyceryl isostearate,
- polyglyceryl monolaurate, polyglyceryl monostearate, and polyglyceryl distearate which comprise 10 glycerol units,
- sorbitan oleate, and
- sorbitan isostearate.

23. A nanoemulsion according to claim 1, wherein said at least one amphiphilic lipid is present in an amount ranging from 0.2% to 15% by weight relative to the total weight of the nanoemulsion.

24. A nanoemulsion according to claim 23, wherein said at least one amphiphilic lipid is present in an amount ranging from 1% to 8% by weight relative to the total weight of the nanoemulsion.

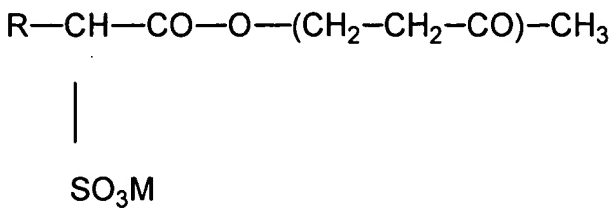
25. A nanoemulsion according to claim 1 further comprising at least one ionic amphiphilic lipid chosen from cationic amphiphilic lipids and anionic amphiphilic lipids chosen from:

- alkaline salts of dicetyl phosphate and of dimyristyl phosphate;
- alkaline salts of cholesteryl sulfate;
- alkaline salts of cholesteryl phosphate;
- lipoamino acids and salts thereof;
- sodium salts of phosphatidic acid;
- phospholipids; and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

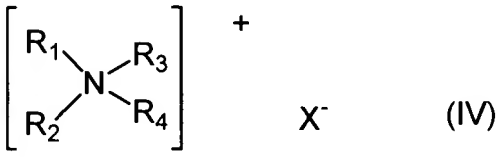
- alkylsulfonic derivatives of formula:



in which R, which may be identical or different in embodiments wherein more than one of said alkylsulfonic derivative is used, is chosen frornC_{16}-C_{22} alkyl groups, and M is chosen from alkali metals and alkaline-earth metals.

30. A nanoemulsion according to claim 25, wherein said cationic amphiphilic lipids are chosen from:

A) quaternary ammonium salts of formula (IV):



(IV)

in which:

-R_1, R_2, R_3, and R_4, which may be identifical or different, are each chosen from:

- linear and branched aliphatic groups comprising from 1 to 30 carbon atoms and optionally comprising atoms chosen from hetero and halogen atoms, and

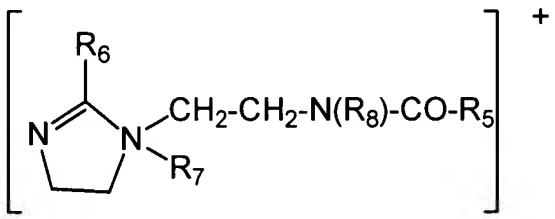
- aromatic groups, and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

- X- is an anion chosen from halides, phosphates, acetates, lactates, (C2-C6)alkyl sulfates, alkyl sulfonates, and alkylaryl sulfonates;

B) quaternary ammonium salts of imidazolinium of formula (V):



(V)

in which:

- R_5 is chosen from alkenyl and alkyl groups comprising from 8 to 30 carbon atoms, - R_6 is chosen from a hydrogen atom, C_1-C_4 alkyl groups, and alkenyl and alkyl groups comprising from 8 to 30 carbon atoms,

- R_7 is chosen from C_1-C_4 alkyl groups,

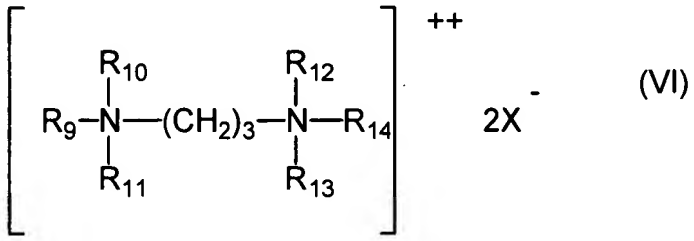
- R_8 is chosen from a hydrogen atom and C_1-C_4 alkyl groups, and

- X^- is an anion chosen from halides, phosphates, acetates, lactates, alkyl sulfates, alkyl sulfonates, and alkylaryl sulfonates;

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

C) diquaternary ammonium salts of formula (VI):



(VI)

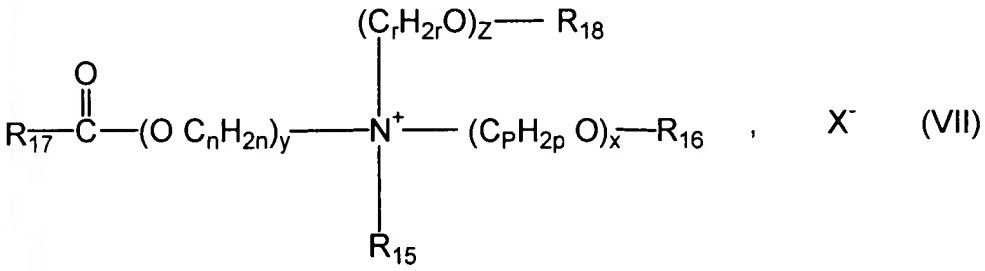
in which:

-R_9 is chosen from aliphatic groups comprising from 16 to 30 carbon atoms,

-R_{10}, R_{11}, R_{12}, R_{13} and R_{14}, which may be identical or different, are each chosen from a hydrogen atom and alkyl groups comprising from 1 to 4 carbon atoms, and

- X is an anion chosen from halides, acetates, phosphates, nitrates and methyl sulfates; and

D) quarternary ammonium salts comprising at least one ester function chosen from said quaternary ammonium salts of formula (VII):



(VII)

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

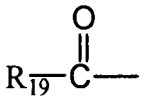
1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

in which:

- R_{15} is chosen from C_1-C_6 alkyl groups, C_1-C_6 hydroxyalkyl groups and C_1-C_6 dihydroxyalkyl groups;

- R_{16} is chosen from:

- acyl groups of the following formula:



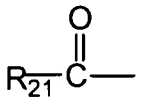
wherein R_{19} is defined below,

- linear and branched, saturated and unsaturated, C_1-C_{22} hydrocarbon-based groups, and

- a hydrogen atom;

- R_{18} is chosen from:

- acyl groups of the following formula:



FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

wherein R_{21} is defined below,

- linear and branched, saturated and unsaturated, C_1-C_6 hydrocarbon-based groups, and

- a hydrogen atom;

- R_{17}, R_{19} and R_{21}, which may be identical or different, are each chosen from linear and branched, saturated and unsaturated, C_7-C_{21} hydrocarbon-based groups;

- n, p and r, which may be identical or different, are each chosen from integers ranging from 2 to 6;

- y is chosen from integers ranging from 1 to 10;

- x and z, which may be identical or different, are each chosen from integers ranging from 0 to 10;

- X is chosen from simple and complex, organic and inorganic anions; and

- provided that the sum x + y + z is from 1 to 15, and that when x is 0, then R_{16} is chosen from linear and branched, saturated and unsaturated, C_1-C_{22} hydrocarbonbased groups, and that when z is 0, then R_{18} is chosen from linear and branched, saturated and unsaturated, C_1-C_6 hydrocarbon-based groups.

33. A nanoemulsion according to claim 30, wherein said aliphatic groups are chosen from alkyl, alkoxy, polyoxy(C_2-C_6)alkylene, alkylamide, (C_{12}-C_{22})alkylamido(C_2-C_6)alkyl, (C_{12}-C_{22})alkylacetate, and hydroxyalkyl groups comprising from 1 to 30 carbon atoms.

50. A nanoemulsion according to claim 30, wherein said anion is chosen from halides and alkyl sulfates.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

51. A nanoemulsion according to claim 50, wherein said halides are chosen from chloride, bromide, and iodide.

55. A nanoemulsion according to claim 30, wherein said cationic amphiphilic lipids of formula (IV) are chosen from tetraalkylammonium chlorides.

56. A nanoemulsion according to claim 55, wherein said tetraalkylammonium chlorides are chosen from dialkyldimethylammonium chlorides, and alkyltrimethylammonium chlorides, wherein said alkyl portion comprises from 12 to 22 carbon atoms.

57. A nanoemulsion according to claim 30, wherein said cationic amphiphilic lipids of formula (IV) are chosen from behenyltrimethylammonium chloride, distearyldimethylammonium chloride, cetyltrimethylammonium chloride, benzyldimethylstearylammonium chloride and stearamidopropyldimethyl(myristyl acetate)ammonium chloride.

58. A nanoemulsion according to claim 30, wherein said cationic amphiphilic lipids of formula (IV) are chosen from behenyltrimethylammonium salts and stearamidopropyidimethyl(myristyl acetate)ammonium salts.

59. A nanoemulsion according to claim 25, wherein said at least one ionic amphiphilic lipid chosen from cationic amphiphilic lipids and anionic amphiphilic lipids is present in said nanoemulsion in an amount ranging from 0.01 % to 10% by weight relative to the total weight of the nanoemulsion.

60. A nanoemulsion according to claim 59, wherein said at least one ionic amphiphilic lipid chosen from cationic amphiphilic lipids and anionic amphiphilic lipids is

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

present in said nanoemulsion in an amount ranging from 0.2% to 5% by weight relative to the total weight of the nanoemulsion.

61. A nanoemulsion according to claim 1, wherein said at least one oil is chosen from plant oils, animal oils, synthetic oils, mineral oils, halogenated oils, esters of a mineral acid and of an alcohol, liquid carboxylic acid esters and silicones.

62. A nanoemulsion according to claim 1, wherein said at least one oil is present in an amount ranging from 2% to 40% by weight relative to the total weight of the nanoemulsion.

63. A nanoemulsion according to claim 62, wherein said at least one oil is present in an amount ranging from 4% to 30% by weight relative to the total weight of the nanoemulsion.

64. A nanoemulsion according to claim 1 further comprising at least one active agent chosen from water-soluble, water-dispersible, and liposoluble cosmetic active agents and water-soluble, water-dispersible, and liposoluble dermopharmaceutical active agents.

65. A nanoemulsion according to claim 1, wherein said nanoemulsion has a turbidity ranging from 60 NTU to 600 NTU.

66. A nanoemulsion according to claim 1 further comprising at least one aminosilicone.

67. A nanoemulsion according to claim 66, wherein said at least one aminosilicone is present in an amount ranging from 0.05% to 10% by weight relative to the total weight of the nanoemulsion.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

68. A nanoemulsion according to claim 67, wherein said at least one aminosilicone is present in an amount ranging from 0.1 % to 5% by weight relative to the total weight of the nanoemulsion.

69. A nanoemulsion according to claim 68, wherein said at least one aminosilicone is present in an amount ranging from 0.3% to 3% by weight relative to the total weight of the nanoemulsion.

70. A composition for topical use chosen from cosmetic compositions and dermopharmaceutical compositions, wherein said composition for topical use comprises a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

71. A composition for caring for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

72. A composition for washing a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

73. A cosmetic make up composition for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

74. A cosmetic make-up-removing composition for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

75. A non-therapeutic care process for a keratin material comprising applying to said keratin material a nanoemulsion comprising oil globules with an average size of less than 150nm and comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

76. A process according to claim 75, wherein said keratin material is chosen from the skin, the hair, the eyelashes, the eyebrows, the nails, mucous membranes and the scalp.

77. A non-therapeutic care process for a keratin material comprising applying to said keratin material a composition for topical use chosen from cosmetic compositions and dermopharmaceutical compositions, wherein said composition for topical use comprises a nanoemulsion comprising oil globules with an average size of

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

less than 150nm and comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

78. A process according to claim 77, wherein said keratin material is chosen from the skin, the hair, the eyelashes, the eyebrows, the nails, mucous membranes and the scalp.

79. A process for thickening oil-in-water nanoemulsions comprising including at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block in said nanoemulsions comprising oil globules with an average size of less than 150nm and comprising at least one oil and at least one amphiphilic lipid.

80. An oil-in-water nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oily phase, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

81. A nanoemulsion according to claim 80, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 1:1 to 10:1.

82. A nanoemulsion according to claim 81, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 1.2:1 to 10:1.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

83. A nanoemulsion according to claim 82, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 1.5:1 to 6:1.

84. A nanoemulsion according to claim 83, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 2:1 to 5:1.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com